

**ABSTRACT OF THE DISCLOSURE**

The present invention relates to PNA derivatives which carry, at the N terminus of the PNA backbone, a phosphoryl radical. The phosphoryl radical can be, for example, a phosphate radical, or a substituted phosphoryl radical, with substituted phosphoryl derivatives carrying, where appropriate, one or more labeling groups, groups for crosslinking, groups which promote intracellular uptake, or groups which increase the binding affinity of the PNA derivative for nucleic acids. The invention furthermore relates to a process for preparing the abovementioned PNA derivatives and to their use as pharmaceuticals and diagnostic agents.